

```
public class MonitorStudentBooks implements IStudentBooks {
    Monitor protectV = new Monitor();
    Monitor.ConditionVariable SOSmeta = protectV.new ConditionVariable();
    Monitor.ConditionVariable Labmeta = protectV.new ConditionVariable();
    int SOSCount;
    int LabCount;

    public MonitorStudentBooks () {
        protectV.Acquire();
        SOSCount = 3;
        LabCount = 4;
        protectV.Release();
    }

    public void borrowBooks () {
        protectV.Acquire();
        while(true){
            if (SOSCount > 0 && LabCount > 0) {
                SOSCount--;
                LabCount--;
                break;
            }
            else {
                if (SOSCount == 0) {
                    System.out.println("Waiting for a SOS" );
                    SOSmeta.Wait();
                }
                if (LabCount == 0) {
                    System.out.println("Waiting for a LabMan" );
                    Labmeta.Wait();
                }
                continue;
            }
        }
        System.out.println("Got some books." );
        protectV.Release();
    }

    public void returnBooks () {
        protectV.Acquire();
        SOSCount++;
        LabCount++;
        System.out.println("Return some books" );
        SOSmeta.Signal();
        Labmeta.Signal();
        protectV.Release();
    }

    public void donateBook (String bookname) {
        if(bookname.compareTo("SOS") == 0){
            protectV.Acquire();
            SOSCount++;
            System.out.println("Donated a SOS" );
            SOSmeta.Signal();
            protectV.Release();
        }
        else if(bookname.compareTo("LabManual" ) == 0){
            protectV.Acquire();
            LabCount++;
            System.out.println("Donate a LabMan" );
            Labmeta.Signal();
            protectV.Release();
        }
    }
}
```

```
    }  
    else {  
        System.out.println("That's not valid." );  
    }  
}  
  
}
```